Amendments to the Claims:

1. (currently amended) An optics housing, comprising:

an enclosure with an interior volume and configured to be substantially sealed against an external atmosphere;

an optical element positioned in the interior volume, the optical element including material having at least one physical characteristic that varies with exposure to at least one constituent of the external atmosphere;

a container coupled to the housing and including a gas-permeable surface; and

a sink material disposed within the container, the sink material having a characteristic of ~~sorbing~~ absorbing said at least one ~~gas species~~ constituent;

wherein at least a portion of the gas permeable surface is substantially opaque to optical radiation.

2. (currently amended) The optics housing of claim 1, ~~wherein at least a portion of the gas-permeable surface is substantially opaque to optical radiation~~ has optical radiation that illuminates some or all of interior volume.

3. (currently amended) The optics housing of claim ~~2~~ 1, wherein the portion of the gas-permeable surface that is substantially opaque to light includes a woven mesh material.

4. (currently amended) The optics housing of claim 3, wherein the woven mesh material has mesh pores, the mesh pores having a pore dimension ~~in units~~ of about one micrometers ~~that is of the order of one~~.

5. (original) The optics housing of claim 1, wherein the gas-permeable surface material is perforated metal.

6. (original) The optics housing of claim 1, wherein the gas permeable surface material is a porous medium.

7. (original) The optics housing of claim 1, wherein the optical element includes at least one material selected from CLBO, CD*A, LBO, BBO, KDP, KD*P, $LiNbO_3$, CaF_2, and MgF_2.

8. (original) The optics housing of claim 1, wherein the sink material includes at least one material selected from a molecular sieve, silica gel, activated illumina, and activated charcoal.

9. (original) The optics housing of claim 1, wherein the sink material is confined in at least one sub-container.

10. (original) The optics housing of claim 1, wherein the at least one constituent of the external atmosphere includes water vapor.

11. (currently amended) The ~~optica~~ optics housing of claim 1, wherein the container is coupled to the enclosure to form a protuberance that extends into the interior volume of the enclosure.

12. (currently amended) An optics housing, comprising:

an enclosure with an interior volume, the enclosure adaptable to be substantially sealed against an external atmosphere;

an optical element disposed within the interior volume, wherein the optical element contains material having at least one physical characteristic that varies with exposure to at least one constituent of the external atmosphere;

a container coupled to the enclosure, wherein the container includes a gas-permeable surface area with a ratio of no less than 0.1 to a total interior surface of the container; and

a sink material disposed within the container, wherein the sink material has a characteristic of spontaneously ~~sorbing~~ absorbing said at least one ~~gas species~~ constituent.

13. (currently amended) The optics housing of claim 12, wherein the ratio of the gas permeable surface area to an interior surface area of the ~~container~~ enclosure is no less than about 0.3.

14. (currently amended) An optics housing, comprising:

an enclosure with an interior volume area, the enclosure adaptable to be substantially sealed against an external atmosphere;

an optical element disposed within the interior volume, wherein the optical element contains material having at least one physical characteristic that varies with exposure to at least one constituent of the external atmosphere;

a container having a gas-permeable surface and a gas impermeable access port to a container interior, the container coupled to the housing so as to form a protuberance that extends into an interior volume of the housing with the gas impermeable access port being a portion of an optics housing exterior; and

a sink material disposed within the container, wherein the sink material has a characteristic of ~~sorbing~~ absorbing said at least one ~~gas species~~ constituent.

15. (original) The optics housing of claim 14, wherein the access port includes an observation window.

16. (original) The optics housing of claim 15, wherein the observation window includes a spectral filter.

17. (currently amended) A laser system, comprising:

a laser;

an enclosure adaptable to be substantially sealed against an external atmosphere and is configurable to receive a laser beam from the laser and emit optical radiation as an output;

an optical element disposed within an interior volume of the enclosure, wherein the optical element contains material having at least one physical characteristic that varies with exposure to at least one constituent ~~of the external atmosphere~~;

a container having a gas-permeable surface and coupled to the enclosure; and

a sink material disposed within the container, wherein the sink material has a characteristic of spontaneously absorbing of said at least one ~~gas species~~ constituent;

wherein said container is structured so that said sink material is removable from said container without opening the enclosure and exposing the interior volume.

18. (original) The laser system of claim 17, wherein the laser system generates ultraviolet radiation.

19. (original) The laser system of claim 17, wherein the laser system generates radiation that overlaps in wavelength with transitions contained in the set of transition selected from electronic transitions of H_2O and rotation-vibration transitions of H_2O.

20. (original) The laser system of claim 17, wherein at least a portion of the gas permeable surface is substantially opaque to optical radiation.

21. (original) The laser system of claim 17, wherein the gas-permeable surface is a woven mesh that is substantially opaque to light.

22. (original) The laser system of claim 17, wherein the optical element includes at least one material contained in the set of materials selected from CLBO, CD*A, LBO, BBO, KDP, KD*P, $LiNbO_3$, CaF_2, and MgF_2.

23. (original) The laser system of claim 17, wherein the sink material includes at least one material contained in the set of materials selected from a molecular sieve, silica gel, activated illumina, and activated charcoal.

24. (currently amended) An optics housing, comprising:

an enclosure with an interior volume and an interior surface area, the enclosure adaptable to be substantially sealed against an external atmosphere;

wherein at least a portion of said interior volume being subject to illumination having an optical power density;

an optical element disposed within the interior volume, wherein the optical element contains material having at least one physical characteristic that varies with exposure to at least one constituent of the external atmosphere; and

a sink material within the interior volume, the sink material having a characteristic of spontaneously absorbing of at least one gas species;

an isolator member for isolating the sink material from said optical power density.

25. (currently amended) The optics housing of claim 24, ~~further including an isolator member for isolating the sink material from optical power density~~ wherein said isolator member comprises a bag at least partially made of woven mesh material.

26. (original) The optics housing of claim 24, wherein the optical element includes at least one material contained in the set of materials selected from CLBO, CD*A, LBO, BBO, KDP, KD*P, $LiNbO_3$, CaF_2, and MgF_2.

27. (currently amended) The ~~laser system~~ optics housing of claim 24, wherein the sink material includes at least one material contained in the set of materials selected from a molecular sieve, silica gel, activated illumina, and activated charcoal.

28. (currently amended) A laser system, comprising:

an enclosure with an interior volume and an interior surface area, the enclosure adaptable to be substantially sealed against an external atmosphere;

a laser positioned in the interior volume;

an optical element disposed within the interior volume, wherein the optical element contains material having at least one physical characteristic that varies with exposure to at least one constituent of the external atmosphere; and

a sink material within the interior volume, the sink material having a characteristic of spontaneously absorbing of at least one gas species;

wherein the laser system generates radiation at a wavelength that is strongly absorbed in H_2O;

a container housing said sink material and protecting said sink material from exposure to said radiation.

29. (original) The laser system of claim 28, wherein the laser system generates ultraviolet radiation.

30. (currently amended) The laser system of claim 28, wherein ~~the laser system generates radiation at a wavelength that is strongly absorbed in H_2O~~ the enclosure includes an interior atmosphere.

31. (original) The laser system of claim 28, wherein the optical element includes at least one material contained in the set of materials selected from CLBO, CD*A, LBO, BBO, KDP, KD*P, $LiNbO_3$, CaF_2, and MgF_2.

32. (original) The laser system of claim 28, wherein the sink material includes at least one material contained in the set of materials selected from a molecular sieve, silica gel, activated illumina, and activated charcoal.

33. (currently amended) A method for protecting sensitive optical elements *in situ*, comprising:

providing an enclosure with an interior volume, the enclosure ~~adaptable~~ adapted to be substantially sealed against an external atmosphere wherein at least a portion of said interior volume being subject to illumination;

disposing an optical element within the interior volume, the optical element including material having at least one physical or optical characteristic that varies with exposure to at least one constituent ~~of the external atmosphere~~;

providing sink material coupled to the enclosure; and

trapping said at least one ~~gas species~~ constituent in the sink material by a sorption process~~, wherein the at least one gas species includes at least one constituent of the external atmosphere with which the at least one physical or optical characteristic of the optical element varies~~;

isolating the sink material from said illumination.

34. (original) The method of claim 33, further comprising removing the sink material through an access port prior to exposing the optical element to laser radiation.

35. (currently amended) The method of claim 33, ~~further comprising isolating the sink material from optical fluence~~ isolating said sink material from said illumination using a bag comprising a woven mesh material.

36. (original) The method of claim 33, further comprising mitigating aerosol production by enclosing the sink material in a sub-container.

37. (original) The method of claim 33, further comprising mitigating out-gassing by enclosing the sink material in a sub-container.

38. (currently amended) The method of claim 33, wherein the at least one ~~gas species~~ constituent trapped in the sink material includes H_2O.

39. (original) The method of claim ~~33~~ 38, wherein a relative humidity in the interior volume is reduced to less than about 5% in less than 120 min.

40. (original) The method of claim ~~33~~ 38, wherein a relative humidity in the interior volume is reduced to less than about 5% in less than 30 min.

41. (original) The method of claim ~~33~~ 38, wherein a relative humidity in the interior chamber is maintained to less than 5% for at least 30 days.

42. (original) The method of claim ~~33~~ 38, wherein a relative humidity in the interior chamber is maintained to less than 2% for at least 30 days.

43. (original) The method of claim ~~33~~ 38, wherein a relative humidity in the interior chamber is maintained to less than 2% for at least 180 days.

44. (new) The method of claim 33, further comprising providing a heating element coupled to the enclosure, in addition to the sink material, for removing contaminants

45. (new) A method comprising:

providing an enclosure having an interior volume and an optical element within the interior volume, the optical element including material having at least one physical or optical characteristic that varies with exposure to at least one constituent;

using a sink material in a container to absorb said constituent, said container having a gas permeable area sized to allow said sink material to lower a relative concentration of said at least one constituent at a rate sufficiently fast to avoid damage to said optical element.

46. (new) The method of claim 45, wherein said at least one constituent is water vapor.

47. (new) The method of claim 45, wherein said container includes a fully permeable surface area with a ratio of no less than 0.1 to an interior surface of the enclosure.

48. (new) The method of claim 45, wherein said container includes a fully permeable surface area with a ratio of no less than 0.3 to an interior surface of the enclosure.

49. (new) The method of claim 45, wherein a rate of change of a concentration level of said constituent changes by an order of magnitude in less than an hour.

50. (new) The method of claim 45, wherein a rate of change of the contaminant is of sufficient rate to prevent damage due to condensation.

51. (new) The device of claim 1, wherein the enclosure has an internal atmosphere.

52. (new) The device of claim 1, wherein the constituent is in a gaseous form.

53. (new) The laser system of claim 17, wherein the enclosure has an internal atmosphere.

54. (new) The laser system of claim 20, wherein said optical radiation is generated by a laser.

55. (new) The laser system of claim 21, wherein said light is generated by a laser.

56. (new) The optics housing of claim 24, wherein the enclosure has an internal atmosphere.

57. (new) The method of claim 33, wherein the enclosure has an internal atmosphere.

58. (new) A laser system, comprising:

an enclosure with an interior volume and an internal atmosphere, wherein at least a portion of said interior volume being subject to illumination;

an optical element positioned in the interior volume, the optical element including material having at least one physical characteristic that varies with exposure to at least one constituent;

a container coupled to the housing and including a gas-permeable surface; and

a sink material disposed within the container, the sink material having a characteristic of absorbing said at least one constituent;

wherein said container is configured to prevent said illumination from deteriorating the sink material while said container remains gas permeable.